THE MAGAZINE OF THE WORLD HEALTH ORGANIZATION

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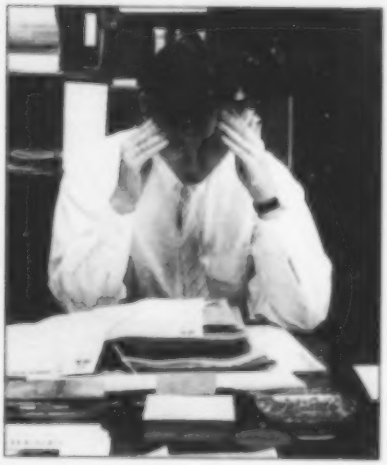

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Editorial

Stress and health

Dr Hiroshi Nakajima, Director-General of the World Health Organization.

Stress affects everyone and, although it can serve as a useful stimulus, excessive stress can lead to physical and mental illness. While it is impossible to calculate whether the number of stressful events and situations occurring in the world is greater than in the past, there is certainly no indication that it is diminishing. At the same time, some of the traditional mechanisms which help people to cope with stress are breaking down. Urbanization leads to rapid social change and a loss of long-cherished values and beliefs; it also causes a breakdown of mutually supportive social units such as the traditional two-parent or extended family. Overcrowding and the growing incidence of violent crime in cities are known to create fear and stress which affect mental health. Attempts to cope with unsatisfactory lifestyles by resorting to alcohol, drugs and other harmful substances lead to more health problems.

It is sometimes assumed that rural life in less technologically developed parts of the world is relatively free from stress. In fact, life in rural areas is often beset by difficulties that can lead to stress. While the traditional support available within extended families and small societies, based on strong systems of traditional beliefs and values, may lessen the impact of stressful events, such support is not there for everyone, nor is it always effective.

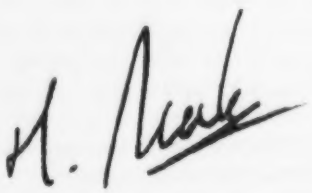
Stress and an inability to cope with it lead to both physical and mental illness, as well as to lesser, yet disturbing, consequences such as demoralization and lack of motivation. These contribute to reducing people's quality of life and their ability to function optimally.

To help the health sector to assess the consequences of stress on peoples' lives, WHO has developed ways of measuring changes in mood and function and is developing a measure of "quality of life". It has also produced guidelines to assist the education sector in preparing children while still in school to cope with stress – something that may stand them in good stead for the rest of their lives.

Although the answers to problems of stress are unlikely to come from the health sector alone, it is the responsibility of the health sector to emphasize the harmful health consequences that stem from stress and to define clearly the situations and environments that generate it. This will help identify the political measures that should be advocated in order to ensure better health and well-being for all.

Health workers must be able to recognize the effects of stress, and know how to deal with them. They need to enhance their skills for listening and communicating with their clients. This, in turn, will make it easier for them to suggest what forms of support may be needed or at least to advise their clients where to obtain help. The WHO programmes on Human Resources for Health and Mental Health are collaborating with medical schools and other schools for health workers with a view to achieving more effective teaching of personal communication and related skills.

Action taken now can reduce some of today's stresses. It can also show people how to cope better with stress and thus minimize its consequences. ■



Hiroshi Nakajima, M.D., Ph.D.

What is stress?

Stress is strictly a force which, when applied to a system, modifies its form. Psychological and social forces and pressures, in the form of events or situations, can be referred to as stresses when they exert a distorting effect upon a person's equilibrium. Psychological tension can also be referred to as stress; in this case the causal agent can be referred to as a stressor.

Stress is not necessarily bad, since in small doses it can motivate us. A crisis, for example, may provoke positive thinking to regain the upper hand and master the situation, and very often to succeed.

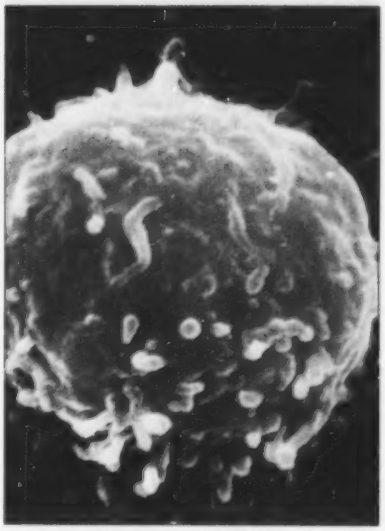
Stress and the immune system

Tracy B. Herbert

Many people have experienced the connection between stress and getting sick. Colds, influenza, herpes and allergies seem worse when we are severely stressed at work or in the home. Others are never sick until they go on vacation (that is, after the stress is over), and then they spend the whole time fighting the virus. Because of intrinsic connections like these, many researchers are today exploring whether (and how) stress and illness are actually linked. One specific focus of this research is to study the effects of stress on the immune systems; after all, if stress affects immunity, that would be one way in which stress could contribute to illness.

The function of the immune system is to protect us from organisms that cause disease, and from other materials that would be harmful to the body. Cells of the immune system (i.e., white blood cells) circulate throughout the body in the blood and are also located in various organs, including the bone marrow, thymus, lymph nodes and spleen. There are a number of different kinds of white blood cells, but the most important in this context are lymphocytes. Of the various tests that reflect the integrity of the immune system, some simply assess the number of white blood cells circulating in the blood; others quantify the amount of antibody in the circulation. Antibodies are proteins produced by certain lymphocytes when harmful substances invade the body. Once antibodies are produced, they attach to the harmful substance, mark it for destruction by other white blood cells, and prevent it from causing infections.

Other tests of the immune system determine how well specific lymphocytes are functioning. One test assesses "lymphocyte proliferation" – by incubating these cells for several days with substances that cause them to multiply (proliferate). More proliferation is thought to reflect better white blood cell functioning; proliferation is important because, when a harmful substance invades the body, immune cells must multiply to increase their numbers before they can successfully eliminate it. Another test assesses "natural killer cell cytotoxic activity". In this test, white blood cells are incubated for several hours with tumour cells to determine their effectiveness in killing the tumour cells. More killing is thought to reflect better natural killer functioning; the killing potential of natural killer cells is important because they are one of the fastest responders of the immune system in the fight against viruses and tumours.



A lymphocyte: stress may weaken the capacity of lymphocytes to combat infection.

Stressful factors

Studies aimed at determining the relationship between stress and the immune system have investigated the effects of factors as diverse as examinations, bereavement, divorce, unemployment, mental arithmetic, and looking after a relative with Alzheimer's disease. In general, these studies find that stress is related to changes in both the numbers of white blood cells in circulation and the quantity of antibody in the blood. Moreover, stress is associated with changes in the functioning of immune cells. That is, there is a relatively large decrease in both lymphocyte proliferation and natural killer cell activity in individuals who have experienced stress. There seems to be some connection between the duration of the stress and the amount of immune change. For example, the longer the stress, the greater the decrease in the number of specific types of white blood cells. It also appears that interpersonal stress (such as bereavement or divorce) produce different immune outcomes compared with the stress due to exams or unemployment.

Connections between negative psychological states (such as anxiety and depression) and immune system variables have also been explored. The results suggest that depressed and anxious mood states are associated with decreases in lymphocyte proliferation and natural killer cell activity, as well as changes in the numbers of white blood cells and the quantity of antibody circulating in the blood. It also appears that the body's ability to produce antibody to a specific substance is related to the level of anxiety that the individual is experiencing: with more anxiety the less antibody is produced after exposure to the potentially harmful susbtance.

How could stress or negative emotional states alter the immune system? Both physiological and behavioural mechanisms provide possible explanations. In the case of

physiological mechanisms, stress is associated with the activation of several systems, including the hypothalamic-pituitary-adrenal axis and the sympathetic nervous system. The activation of these two pathways results in elevated blood levels of specific hormones, namely cortisol and the catecholamines (epinephrine and norepinephrine). Blood levels of these hormones are related to immune functioning. For example, acute increases in cortisol and epinephrine are related to decreases in the number of white blood cells in circulation. Lymphocyte proliferation and natural killer cell activity are also decreased when there are acute increases in cortisol and epinephrine.

Other hormones released under stress – such as growth hormone, prolactin, and the natural opiates (beta endorphin and enkephalin) – have been implicated in influencing the immune system. At a cellular level, these hormones become attached to receptors on white blood cells and so affect them.

The way we behave

An alternative explanation involves the association of stress with specific behaviours that modulate the immune response. Stressed persons tend to sleep less, exercise less, have poorer diets, smoke more, and use alcohol and other drugs more often than non-stressed people. These behaviours have all been shown to affect the immune system.

The interpretation of these changes in the immune system due to stress is difficult. Even though decreased natural killer cell activity is evident in certain human diseases (such as cancer, chronic viral infection or autoimmune diseases), the direct health consequences of such a decrease have not been established.

A decreased lymphocyte proliferation response is associated with increased levels of mortality and an increased number of hospitalizations among the elderly, but there is no clear link with specific diseases that are mediated by the immune system. Nevertheless, it is clear that stress has an adverse effect on health, probably mediated – at least in part – by the body's immune system. It is hoped that future research will show how, by reducing stress, we can improve health. ■

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Looking for a job. Uncertainty about employment is an important contributor to stress.

Stress and cancer

For as long as 2000 years, doctors have recognized significant associations between stress and the development of malignancy. In the 19th century, British physicians believed that emotional distress was the most powerful cause of cancer, and increased rates of the disease were subsequently correlated with the psychosocial stresses that have progressively developed alongside "modern" lifestyles.

According to *Stress*, the newsletter of the American Institute of Stress, studies over the past five decades have convincingly demonstrated the profound effects that stress can exert in accelerating the development and growth of different malignancies, without actually causing them. Similarly, stress reduction strategies have been shown to retard tumours in laboratory animals and to prolong life in cancer patients. The disease has been called a "disease of adaptation."

As one goes down the wide range of animal forms, cancer becomes progressively rarer, and it is not seen in primitive forms of life. On the other hand, the ability to regenerate parts of the organism that have been injured or lost increases in a proportional fashion. In humans, it has been observed that tissue injury and loss of important emotional relationships are associated with a greater likelihood of developing cancer.

Some physicians propose that these trauma invoke atavistic responses – reverting back to our remote ancestry – that once had a purposeful *repair* function, but now result in new growth, or neoplasia, that is uncontrollable and therefore malignant. On the other hand, such positive emotions as a strong faith, social support and other stress reduction strategies seem able to retard or even reverse malignant growth, as occurs in cases of spontaneous remission of cancer.

The mind and the body

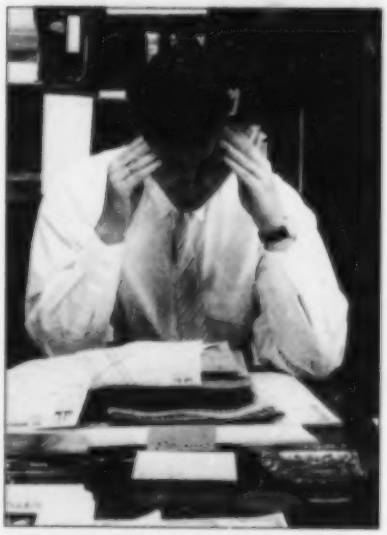
C. David Jenkins

Psychological, social and behavioural forces make major contributions to the leading causes of disability and death in nations around the world, irrespective of their stage of economic development. It is very clear that smoking cigarettes, drinking too much alcohol, becoming obese and failing to get preventive health care, such as immunizations, are all easily observable behaviours that raise the risk of illness and premature death. It is also well known that the personal and social environments surrounding us either contribute to our well-being or increase our risks of illness.

A third channel through which psychosocial and behavioural factors can affect our physical health works entirely inside our bodies. Our personalities, behavioural patterns, kinds of emotions and their intensity, and the way we cope with them – all influence our bodies in complex ways. Our psychological nature develops from our past experiences and choices, and influences our central nervous system. Our nervous system interacts with the glands of our endocrine system and also with our immune system, which protects us from many diseases ranging from infections to cancers.

We all know how physical illness or pain affects the way we think and feel. Now science is making exciting discoveries about how the way we think and feel affects all the rest of our bodily systems.

Psychological mechanisms affect our bodies before, during and after physical illnesses. Here are some examples of recent research results which have implications that may help people everywhere to reduce the risk of some illnesses and perhaps even recover faster from others.



The competitive and aggressive attitudes that are expected of staff in modern businesses put employees at risk of cardiovascular disease

We all know how physical illness or pain affects the way we think and feel. Now science is making exciting discoveries about how the way we think and feel affects all the rest of our bodily systems.

Distress

Life-changes and problems often cause feelings of distress. When we measure how distressed people feel about what has been happening in their lives, we find a predictive relationship with future rates of mild and moderate illnesses. We measured work-related life-change distress in 400 air traffic controllers in the United States. Men with the highest scores had an average of 69% more illness episodes over the next 27 months than those in the lowest quartile. This study is typical of many that have been done throughout the world.

Distress also has a strong relationship to the recovery process. We studied over 500 men and women undergoing coronary artery bypass or cardiac valve surgery. Before their operation we measured their level of life-change stress, their hopefulness and many other psychological and biomedical variables. Six months after their surgery, we interviewed them about the frequency with which they were experiencing heart symptoms, such as chest discomfort and shortness of breath. Of the patients with high life-change stress before their operation, only 42% were completely free of heart symptoms, whereas 70% of those with low life-change stress were free of symptoms. A similar pattern emerged for the personality characteristic of hopefulness. Of the patients who were generally hopeful about life (top 25% of scores), 66% were free of heart symptoms six months later, whereas from the group with the lowest scores on hopefulness only 37% were free from post-operative heart symptoms. This difference was so large that it could occur by chance only one time in a thousand.

The Type A behaviour pattern

People who are competitive, aggressive, easily angered, always in a hurry, and in a constant struggle against time and their environment

are said to display the Type A behaviour pattern. This pattern was originally found to be associated with a doubled risk of developing ischaemic heart disease (IHD), particularly in men under the age of 60 years. The power of the Type A behaviour pattern to predict IHD has been shown in many countries, with the most recent data coming from Belgium, China, India, Japan and Lithuania. Even when account is taken of other IHD risk factors like cigarette smoking, high blood pressure and elevated serum cholesterol, the Type A pattern appears to contribute still further risks in many – but not all – subpopulations of people.

Now researchers are studying the relationship of Type A behaviour to other health outcomes. In the US study of air traffic controllers, Type A workers had 38% more mild and moderate illnesses from all causes than their colleagues. Furthermore, Type A men had three and a half times as high a frequency of injuries compared with those without that behaviour. It makes sense that aggressive, competitive, hurried, impulsive behaviour will lead to more accidents on the road, at home and during sports. The important thing, however, is that we can measure this risk quantitatively and recommend that changing one's behaviour pattern to a more average, easy-going, cooperative and friendly style might very well lower the risk of both heart attack and injury.

Hostility

Hostility is part of the Type A behaviour pattern, and it has often been studied independently for its effect on health. Hostile, angry, unfriendly people not only make life difficult for their families and co-workers, they also bring ill-health upon themselves. A number of large research studies – some with as long as 20 years of follow-up – have shown that hostility is a major risk factor for IHD. It also seems predictive of higher rates of future mortality from all causes. In the prospective study of US air traffic controllers, hostile attitudes towards management were predictive of future increased risks of both minor illnesses and injuries. In the study of recovery after major heart surgery, patients who scored highest on the hostility scale before their operations were twice as likely as the least hostile quarter of the group to be experiencing heart symptoms six months later.

Again we see this interesting continuity of effect. Some of the same psychological risk factors that increase a person's chances of suffering an illness or injury also seem to influence the rate of recovery after an acute medical or surgical crisis.

Steps you can take

What do these findings tell us about the influence of psychological factors on physical health? These few examples from a much larger body of research indicate that high levels of distress due to life crises, the Type A behaviour pattern, and hostility are important examples of psychological factors that influence both the chance of becoming ill or injured and the speed of one's recovery. It is possible – although difficult – to change our exposure to the kinds of events that cause stress, Type A reactions and hostility in us. What is easier is to try to see the world in a new way and reinterpret our life circumstances in a way that is more benign and less troubling to our feelings. Finally, there are certain relaxation and meditative techniques that seem to be able to change our physical responses to our experiences and feelings.

A number of excellent books and monographs have been written in recent years about approaches that can be used to change behaviours. Each of these techniques works for some persons but not for others. Through psychosocial and behavioural research we are learning more and more about the causes of physical illness, and we are also learning how psychological and behavioural techniques can help preserve and promote our own total health. ■

Positive inward feelings increase the chances of recovery among cardiovascular patients.

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Points of view

Exploring the mind and spirit

Human beings are the result of many millions of years of evolution from lower forms of life. And yet, despite being *Homo sapiens* (literally, the wise human), the one thing that has not been given the importance it deserves – judging from more than 5000 years of recorded history – is wisdom in human conduct.

This absence of wisdom as a guiding force is due to factors that influence our choices in everyday life – mostly aiming at satisfying the senses and the intellect. At the same time, science and technology have been very successful and made life easier in many ways. Yet, despite this success and the comforts of the material world, people today are subject to more and more stress and illness. The question they ask is, "Where can I find lasting peace and joy?"

Matter and spirit

Great thinkers, saints and sages in the past have declared that human beings are composed of body, mind and spirit. While it is easy enough to identify and serve the body and mind, many people have doubts about the reality of an invisible and intangible spirit which is said to be the very basis of all matter, including the body and mind. The relationship between body and spirit is analogous to a building and its foundation lying under the ground; the foundation, although hidden, remains an indispensable support to the building. Likewise, the spirit is the base on which the body and mind rest.

In the context of global health strategies, the World Health Assembly in 1984 defined the spiritual dimension as "a phenomenon that is not material in nature but belongs to the realm of ideas, beliefs, values and ethics that have arisen in the minds and conscience of human beings", and affirmed the spiritual dimension of health.

Mind and self-inquiry

Among the functions of the mind are thinking, reasoning and memory. Besides being a generator of thoughts, the mind seems to be able to receive and transmit thoughts. Examples of this potential are premonitions, ideas that come by intuition or inspiration, and the same thought occurring to two persons at the same time. Great works of art, music and literature are known to have resulted from intuition or inspiration. The progress of scientific research has also been aided by flashes of intuition. In our daily lives, however, only a fraction of the potential of the mind is utilized.

While normal consciousness makes us aware of our identity and surroundings, a higher plane of *superconsciousness* – with enhanced awareness – is said to be attainable by self-inquiry, the practice of self-discipline (both morally and physically), and certain exercises (e.g., prayer and meditation). Constant self-inquiry can lead to awareness of the spiritual dimension.

The process of self-inquiry begins with the question "Who am I?" Indeed the exhortation given by the wise philosophers from antiquity was "Know thyself!" – the aim of which was to discover the fundamental truth about existence, life and death. One answer to this question is: "I am this body including the brain and mind – with thoughts, memories and desires". However, persistent self-inquiry and self-discipline have led to realization of the higher consciousness and a state described as "bliss".

Wisdom and virtue

Our efforts to organize our lives on a rational basis should take into account the human potential as well as our aspirations to possess wealth, power, beauty or whatever we desire, and should always be guided by wisdom. However, since self-interest is such a strong force, we continue to defend ourselves and preserve our selfish interests.

In such a situation, it may be asked: Is there any use in exploring the higher consciousness? Will it help us achieve a new world order – based on justice, equality, human rights, democracy and so on? The answer is yes, because the process of self-discovery involves purification of the mind from anger, hatred, lust, greed, envy, jealousy, pride and other characteristics that lead to conflict and suffering. All of them and their counterparts – the higher human values such as truth, love, peace, caring and sharing – are first expressed in our thoughts and feelings, and then in our actions. Therefore, central to the whole process of realizing the higher consciousness is the process of self-discipline and gradual elimination of the less desirable traits.

The decline in virtue – defined as control of passions and emotions, and directing them along beneficial channels for the common good rather than for self-interest – has caused the destruction of peace in individuals, families, communities, countries and the whole world. Virtue embraces truth and love, which are the basis for peace and unity in human communities and between individuals, helping them to promote their physical and mental health.

Knowledge alone cannot avert the crises of today and the future. Wisdom is the needed catalyst to direct our worldly knowledge towards a correct understanding of ourselves and the world we live in. Only virtue and wisdom together will show us where lasting peace and joy can be found. ■

Contributed by Dr Ali Hussein, Head of Periodicals, Office of Publications, World Health Organization, 1211 Geneva 27, Switzerland.

Spiritual dimensions

People through the ages have felt that they are more than just a physical body, and this has been conceptualized as an entity called "the mind". This entity carries out the functions of thinking and feeling, which nevertheless are still felt as occurring within the confines of the physical body. Many people believe that there is a further entity, which can exist outside the body, and which is referred to as the spirit or soul. There is a common belief that some part of a person, the soul, continues to exist after death of the body. It is after all difficult to believe that people we have known in life should completely disappear on death.

It is not only the death of others that leads to this belief in a soul. Many people, during life, have had experiences which convince them that there is a force or energy outside and beyond themselves. This is described as differing from their everyday physical, mental and emotional experiences, and belonging to a spiritual dimension. This spiritual experience can form the basis for a system of values which influences a person throughout life, but also includes more temporary states in which people feel that they leave their physical body, that they approach some higher force, at times sensing some very positive or exhilarating state. Because these states are usually temporary in nature, however, attempts are made to capture or recapture them so as to move towards some more perfect, timeless state of being. This may be done in a variety of ways, including prayer, meditation and exercises such as yoga (Sanskrit for union, referring to a union with a supreme force or being). The belief is that being in tune with that energy lying in the spiritual dimension leads to a more balanced state of physical, mental and social well-being. That same energy has also been invoked as a healing power to cure disease.

The spiritual dimension was specifically mentioned within a World Health Assembly resolution in 1984 as a possible motivating force in the global strategy of Health for All. The search for something beyond our physical selves will always continue, and this process of exploration will surely enrich mankind. ■

Prayer and meditation are pathways to spirituality.

Contributed by Dr John Orley, Acting Director of the Division of Mental Health, World Health Organization, 1211 Geneva 27, Switzerland.

Coping with stress

A training document entitled *Coping with stress in crisis situations*, published by the Office of the High Commissioner for Refugees in 1992, gives some examples of positive thinking to help cope with stress. These are presented below in modified form:

Making positive helpful statements to oneself: *"I don't feel like dealing with this angry patient/client right now, but I've done it before, so I can do it again."*

Re-defining a distressing task, usually by removing the emotional element: *"In spite of what has happened to this woman, her first need is for a calm, sympathetic support person. I am good at that."*

Reducing the stress by narrowing the focus: *"All I have to do is keep pressure on this wound until the ambulance arrives."*

Rationalizing the event, or one's reactions to it: *"Mutilated accident victims upset everyone. I'm no exception."*

Addressing stress symptoms: *"I'm feeling weak because I'm anxious. I'd better take a break."*

Reframing the stress symptoms: *"I'm feeling hot and flustered. I'll take my coat off/open the window."*

Talking oneself into a helpful response: *"I don't feel calm, but I can look calm by taking a deep breath, relaxing my shoulders and speaking more slowly."*

Recognizing different ways of coping with stress: *"These operating theatre jokes are driving me crazy, but I guess it's one way of coping with the situation."*

Self-acceptance of outside pressures that may limit performance: *"Considering how long I have been doing this, and how exhausted I am, I did well today. I finished all but one report and took a short break."*

A family burden

R. Thara

Relatives of mental patients often feel helpless: prayer may be their only recourse and hope

"V" was a brilliant technology student hailing from a conservative and deeply religious family. In his first year as a student he began experiencing mental conflicts arising out of the disparity between his own value systems and those he was then exposed to on the college campus. A year later – like any full-blown picture of psychotic illness – he heard voices talking to him and controlling all his thoughts and emotions, lost interest in everything, isolated himself, and gave a poor academic performance.

After four or five years of treatment he improved and obtained a diploma in technology, but refused to continue taking medicines. His elderly father, a pious temple priest, his self-effacing mother and his brothers and sisters were all shattered by this collapse of their dreams and hopes. His frequent outbursts of aggression, total lack of motivation to work and eccentric behaviour drained them of their energy. Even today, after ten years, they live in agony, with just a glimmer of hope that one day he will "return" to them and take up his responsibilities at least to the extent of fending for himself. Their hope rests in divine intervention.

This is a typical story of a family with a member suffering from chronic mental illness (CMI). Equally distributed all over the world, CMI covers a group of severe, psychotic illnesses, the more important ones being schizophrenia and manic depressive psychosis.

In most developing countries, the entire spectrum of caregiving – the perception and interpretation of symptoms, decisions on the mode of treatment and its continuation – rests with the family. This consequently imposes a severe burden on them, the elements of which are similar across varied cultural settings. Objectively, they suffer financial stress, disruption of family routine, impairment of the health of others and even the breaking up of the family itself. The long duration of treatment, the cost of commuting to the treatment facility, the earnings lost in the process and the large size of the family contribute to the strain on the exchequer. Besides, in many countries CMI sufferers are not eligible for any welfare or disability benefits.

The subjective distress experienced by such families covers a wide range of emotions such as sorrow, disappointment, guilt, anger, a sense of loss and lack of control over their own lives. Witnessing the decline in the loved ones, the change in their personalities, their insensitivity to and lack of appreciation of the carers' efforts all cause a lot of emotional pain. The stigma attached to mental illness does not make it easier for the families to cope. In the 1970s, the professionals induced a lot of guilt in families by blaming them as causative factors, but the families have now been largely absolved of this. All that can be said now is that any emotional overreaction by family members could lead to a relapse of the condition.

No long-term care

A concern often expressed by carers is about the continuity of care: what happens to the patient when I am no longer there? An alternative system of long-term care does not exist in India, since there is a gross disparity between those in need of it and those competent to provide it. Elderly parents particularly often make a desperate but usually futile search for service systems that provide this facility.

Joint or extended families can act as effective buffers in several ways. Their own explanatory model of the illness – black magic, fate,

hereditary weaknesses and so on – help to build up tolerance of the ill member, who is not really held "responsible" for his ailments. This may not be the case with urban and literate families, whose expectations of the sick member are much higher, whose role definitions are clearer and whose day-to-day stress factors are more severe.

It should be emphasized that families also derive a lot of support from neighbours and friends. The concept of formal support groups dealing with consumer-based issues has yet to catch on in India, although informal support groups are available, especially in rural areas and slums.

Besides these common problems faced by families all over the world, there are certain culture-specific themes. In India, for instance where most marriages are still arranged after a careful scrutiny of the family standing, resources, health and so forth, the presence of a mentally ill member can be a deterrent to the prospects of the sisters and brothers getting married. This often acts as an irritant focus, affecting the emotional climate of the family. In the same context, disclosure of information about mental illness can be a tricky business. Nevertheless, marriage is still held to be a panacea of all ills, especially those afflicting the mind. This belief often takes precedence over professional viewpoints.

How do families cope?

The appearance of mental illness is invariably a disaster in which all the family are victims. Yet families all over the world have been coping with this for centuries and have formulated their own strategies for doing so. In the industrialized world, understanding and accepting the illness, seeking information about it, developing specific skills to manage difficult situations, developing realistic expectations about the patient, and sharing feelings and strategies with formal and informal support systems have become the prominent measures of coping.

This may not be so in all cultures. In India, for example, there is heavy reliance on deep religious beliefs, prayer and faith in the divine to provide solace and keep hopes alive. The doctrine of Karma, a basic tenet of Hindu philosophy, induces a fatalistic attitude in many families which makes them resign themselves to the situation. At some stage, they may be driven only by a deep sense of duty and commitment, without emotions surfacing too often. For the same reason, some families are not keen to have access to information about the illness such as the prognosis, the outcome and so on, the knowledge of which might break down their barriers of defence. It is up to the health professionals to identify this framework of adaptation and coping, and to use it as a resource which will primarily reinforce not only rational thinking but also deeply entrenched sociocultural beliefs which have stood the test of time. ■

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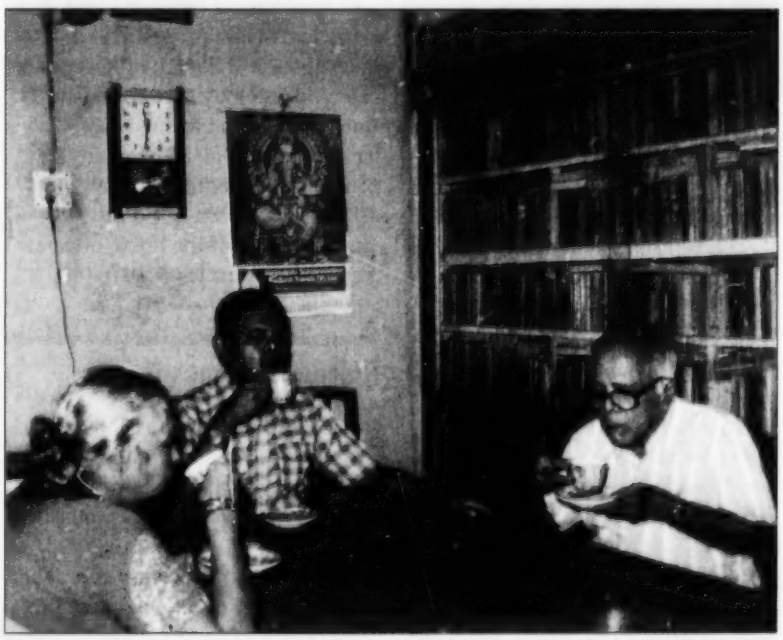
The healing touch

Physical touch can lower the raised heartbeat rates of patients in intensive care, even when they are comatose. Therapeutic touch is being increasingly used to allay anxiety.

Massage therapy is also being employed more and more as a stress reduction strategy, and may be particularly effective for newborn babies, especially those who are premature. Massaged babies gain weight as much as 50% faster than babies in an unmassaged control group and "are likely to cry one minute, then fall asleep the next . . . and better able to calm and console themselves." The massaged babies prove to be more active, alert, responsive, aware of their surroundings and resistant to noise stress. One physician has commented: "It is amazing how much information is communicable in a touch. Every other sense has an organ you can focus on, but touch is everywhere."



In most developing countries, the care of aging parents devolves entirely on younger members of the family.

Caring for dementia

Helen Herrman

The care of elderly, demented relatives is one of the most demanding of situations for families. Yet the services available for such carers – if available at all – are frequently poorly coordinated with each other and with the health and social services.

Reliance on family carers has increased over the last 30 years in most communities in the Western world. Hospitals and institutions have become smaller and more health care is given in outpatient and community settings. This is generally aimed at improving the quality of life of disabled people. At the same time, in many areas of the world the numbers of disabled persons, particularly the elderly, continue to grow. Most carers are women, who now have greater opportunities for working outside the home than before.

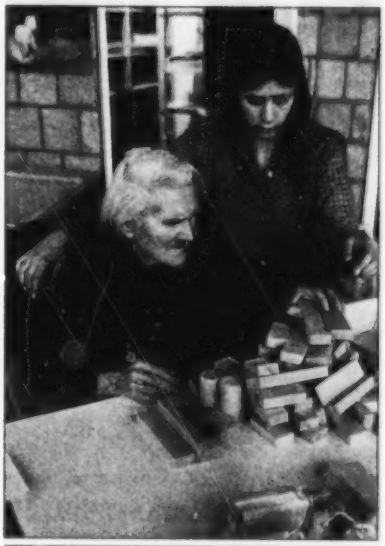
Many people in the community are carers in one way or another. Parents care for their children, children for their aging parents, and spouses and other family members for each other. Some cultural groups see "normal" caring of this sort as extending further than others. This in itself will shape a person's response to the experience of giving care to a disabled relative. In addition, the response will be affected by factors personal to the carer and the recipient, by the social and physical setting, by the nature of the disability, and by each government's social policies and available services.

Family carers are important sources of help and support in a variety of conditions, including dementia, frailty in the elderly, schizophrenia, and intellectual disability. The care of elderly, demented relatives is one of the most common and demanding of these situations. Yet the experience of a daughter who has young children of her own caring for a mother with dementia is likely to be very different from that of a husband or wife caring for his or her spouse. Curiously little is known about the nature or hardship of the task. Most research work is focused on families in contact with specialist services or support organizations, and we know that many carers do not know about or seek help.

Carers have generally received little recognition from governments or clinicians, but their well-being is now becoming a focus of preventive medicine, health promotion and investigation. They often experience hardship and may themselves suffer from anxiety and depression. We have very little idea how many people in our community are affected in this way, and little understanding of the range of carers' responses or service needs.

Relentless demands

In recent focused discussions with members of support organizations in Melbourne, Australia, family carers of people with dementia emphasized that a great deal of stress is associated with the caring role. The demands are constant and relentless, both in terms of practical assistance and emotional strain and worry, and the daily tasks require a great deal of time. One man caring for his wife commented that "if you're feeding them three meals a day, and you're standing there for two hours every meal, it's too long; you start getting very uptight yourself". There can be a dilemma about how much assistance to provide. "I don't know whether I should be doing it or letting him (my husband) do it for himself, but I generally take the easiest way out", said one wife. "Sometimes he can dress himself and sometimes he can't, and I just automatically do it now because that's the easiest way". The constancy in providing physical care and "watching them 24 hours a day" is, in turn, a continual emotional demand on the carer. Even those who give less practical assistance may have constant strain and worry about their relative's well-being and future, and their own ability to handle the demands.



Social services can provide a respite for family carers and additional support for the patients.

Another great concern for carers is their relative's decline, and the change in their relationship. A wife talked about the pain of watching her husband lose his abilities: "it's terrible, it's soul destroying, it's just dreadful; watching someone that you love go downhill". Often communication is difficult due to forgetfulness, confusion, lack of concentration and even lack of recognition. "Continual questions" and "repeated stories" cause distress for many. Several carers expressed concern for their relative's safety through wandering, and others talked of having to deal with his or her difficult behaviour, such as refusal to shower or to eat, or sarcasm, quarrelling or aggression.

Many confessed to feelings of resentment towards the relative, associated with the restrictions and losses that the caring role brings; and an overriding sense of guilt about that resentment as well as about providing inadequate care. This guilt can be particularly apparent when it comes to seeking respite or other supports.

Occasionally the carers emphasize the satisfactions, such as "being able to postpone the nursing-home care", or the joys of caring. "I've loved looking after him; it's been no chore to me and never will be". Even though his wife had been unable to speak for about two years, one husband noted that "sometimes we have lovely times together".

Carers may gain strength through social supports, and through maintaining a positive attitude. Many try to cope by denying the strain; in so doing they may be less likely to turn to any formal support services. While many are supported by family or friends, there was a general feeling of social isolation and of not being supported or understood by others, both within and outside the family. Carers often experience conflicts about their responsibilities towards other family members and other roles.

Access to services

Carers vary greatly in their use of and attitude to formal services. While some use day care, others have no respite, either because no service is available to them, or they are unsure how to gain access to services, or they feel that they have no need for the help. Many carers talked about the difficulties in asking for help – sometimes through pride, and sometimes through lack of acknowledgement of their needs and limitations.

The types of service available to carers vary widely, and those available are frequently poorly coordinated with one another and with the general health and social services. The situation in Melbourne in this regard and in the experience of carers is probably similar to that in other communities. One of the most important considerations for policy-makers may be the interactions of family carers with the health professionals. Doctors and other practitioners ought to become more aware of the needs of these people and more knowledgeable about the available services including referrals. More opportunities for carers to have respite, to have counselling, and to have nursing home or hostel accommodation available when needed would give considerable relief.

The important question is how best to enable and encourage family members to care for their demented relatives without unreasonable costs to themselves. And that forms part of the wider issue of how we are to organize and provide care for persons with dementia or other disabilities. ■

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Urban design

Alice Coleman

Parts of the world's modern cities are pushing introvert children towards insecurity and mental illness, and extroverts towards a criminal and psychopathic disposition. This is not just a simple matter of urban stress; rather, it occurs in relation to specific housing designs and can change over time as different designs are introduced. Japan's urban growth has been variously accompanied by falling, stable and rising crime rates, while London had low crime during its rapid expansion before the Second World War, followed by unprecedented escalation when urban planning reduced its population by nearly three million.

The common factor running through all the harmful designs is the sharing of buildings and grounds by different households. The shared tenement was the archetypal slum of Charles Dickens' time, and it seems incredible that "Modern Movement" architects and planners should have resurrected it as the keystone of their Utopian ideology. Back in the early 1960s, Puerto Rico discovered that modern housing projects were the scene of social breakdown and abandoned them in favour of assisted self-building. Later studies confirmed the stability associated with self-building elsewhere in Latin America.

Oscar Newman, in 1972, identified eight specific design features that made New York's apartment buildings vulnerable to intruders, and my own British research has expanded that number to 16 in blocks of flats, 12 in houses, and 10 in other sites such as car-parks. It has also shown that these designs impede normal child-rearing, creating insecurities in some and aggressiveness in others. Yet it has been proved that social breakdown is largely reversible if the right treatment is applied.

The lure of Modernism is the consistency of its internal logic on how it *would* benefit residents, and this blinded its protagonists to the lack of external logic as to how things worked in actual practice. Let us look at the four basic ideals of Modernism and the observed realities.

■ Ideal of ultra-privacy

To defeat inquisitive neighbours, blocks of flats were set at right angles to each other, house-fronts faced the blank back walls of the next row, entrances were concealed round blind corners or behind refuse chutes, car parks and garage courts were located out of sight, and estates were peppered with unobservable nooks and crannies. Residents could not see the sneak-thief or the naughty child, so bullies and criminals went unchecked. There was free scope for breaking into cars and garages, resulting in vehicle theft, car "races", and deaths caused by young joy-riders. Lack of natural surveillance led the police to sponsor artificial neighbourhood watch schemes, which are not really feasible in areas designed for ultra-privacy.

■ Ideal of community formation

"Throw them together and they will form a community" is the rationale of residential flats, but it has proved a false dogma. Apartment blocks are lonely places where people rarely see each other and anonymity prevails. Criminals welcome anonymity, since even if they are seen they are not identified, and the same applies to antisocial children as they slide into delinquency. The best community-formers are houses with front gardens, as the time spent working out there increases interaction with passers-by. People become known by name and address, by the nature of the plants they grow and by attitudes revealed in conversation, and so community trust can grow gradually. Children are introduced in the natural course of events and learn to appreciate others as individuals.

There is no such social integration for children brought up

in flats. They see anonymous bodies going into identical homes, and perceive them as "things". In Japan such children are reported to be more callous than house-bred contemporaries, and in any country the extreme cases become conscienceless psychopaths, given to violence and torture. Where Modern Movement designs dominate, crime becomes progressively more cruel as well as more frequent.

Despite overcrowding, certain urban environments serve to foster human contacts at the community level.

■ Ideal of free circulation

Modern estates have maze-like circulation patterns: ramifying corridors, overhead bridges, inter-accessible staircases, lifts and ramps, alternative exits, arches, tunnels and underpasses, a duplication of roads and paths to separate pedestrians from vehicles, and a plethora of alleyways to link the two. These provide multiple escape routes for criminals and delinquent children, and also dilute the public presence along any one stretch. Bullies and attackers are confident that no one will come along to observe them, and their victims despair of rescue. Fear of crime keeps many people indoors, far more than is good for their health.

■ Ideal of green spaciousness

Spiritual refreshment through landscaped elegance is another pious hope, because there is evidence that green space in housing estates is the most powerful factor in the volume of residential crime. Common space in lieu of individual gardens robs people of a controllable buffer zone where suspicious behaviour can be seen as such, and this lack of control inhibits natural self-policing by the community. It also deprives children of natural anti-vandalism training. A continuous frontage of garden walls and gates is a highly visible barrier that even toddlers can learn to respect, and it teaches them respect for the gardens inside and for other people's property in general. Open green spaces impart no such lessons. Children playing there can go right up to the windows, and perhaps accidentally break them. This evokes a scolding, which may provoke the more aggressive ones to spiteful retaliation and a career of criminal damage.

In summary, experience shows that the logic of Modernism is not internally consistent. Ultra-privacy inhibits community formation, and common green spaces preclude the privacy afforded by individual gardens. It is tragic, therefore, that this school of architects still influences designs in the West, and even more tragic that Eastern countries such as China, India and Indonesia are adopting similar housing types – and creating enormous future problems of maintenance costs, ill-health, crime and victimization. Helping slum-dwellers to improve their homes constitutes a much better approach to social stability. ■

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"White coat hypertension"

White coat hypertension is a condition in which blood pressure rises in the presence of a doctor but falls when the patient leaves the medical environment. Measurement of blood pressure by nurses or trained non-medical staff may reduce but not necessarily abolish this effect.

How to define white coat hypertension precisely is a matter of controversy. Calculations on the basis of the difference between the blood pressure measured in the doctor's office and readings taken at home are questionable because this difference may depend on many more factors than just "fear of the doctor". It has been suggested that patients who show a marked difference between clinic and home blood-pressure measurements may be at higher risk of cardiovascular problems. What is important, according to WHO's *1993 Guidelines for the management of mild hypertension*, is to recognize the condition in order to avoid starting many patients on unnecessary treatment.

Home blood-pressure measurements have the advantage of providing many more readings in a quieter setting than those taken in the doctor's office. Ambulatory blood-pressure monitoring – that is, repeated measurements (say, every 20 minutes over a 12-hour period, using special equipment) while the patient works as usual – is an interesting research technique which is used to investigate variability in the blood pressure and behavioural effects on it.

However readings taken by the conventional method in the clinic by physicians or nurses – which show on average higher values – are the ones used for prognostic standards with regard to the levels of blood pressure which call for medical treatment. Consequently, the WHO guidelines suggest that the home or ambulatory measurements should only be used in selected cases to complement the values measured by the physician.

Victims of rape

Jane S. P. Mocellin

Aggression and antisocial behaviour, generalized anxiety, and depression linked to a lost sense of personal worth are among the symptoms shown by women who have been raped.

Rape is an all-too-frequent occurrence in times of national upheaval and civil war. What is often overlooked in terms of effective disaster management is the part played by cultural, ethnic and political factors – rather than biological or physiological factors – which may predispose certain groups of women to the risk of rape.

Among the cultural factors to be considered is the fact that women, more than men, particularly in certain male-dominated societies, are subjected to high levels of stress in disasters. This stress is accompanied by a wide range of physical, psychosocial and organizational losses. In disasters, any weakness in the psychosocial structure is magnified. Psychosocial reactions to disaster are often maladaptive and may include anxiety, depression, bereavement, and alcohol and drug abuse as well as unemployment, homelessness and community disorganization. Such a situation provides a backdrop for escalating aggression, including rape.

Sometimes women may be asked to trade sexual favours in order to retain or acquire provisions for their own or their dependents' survival. If the women refuse, there is an increased likelihood of incidents of violence culminating in rape. In environments where there are large concentrations of women – perhaps in flight from conflict areas and then being held for extensive periods in refugee camps – the stage is set for all sorts of violence. The threat of rape may then be seen as an instrument of subjugation and fear-inducement by the perpetrators. It may be carried out by camp-guards, or – in other settings – by terrorists using this threat as a political lever.

Suicide attempts

In the former refugee camps on the Thailand-Cambodia border, the sexual abuse of Khmer girls and women was common. Psychological stress was magnified by the inability of the victims to report the attack, since they feared that they would be stigmatized by being no longer virgins and thus not eligible for marriage. There was an increased risk of suicide attempts. Researchers reported that most of these attempts took place after multiple episodes of intra-familial violence, and interpret them as acts of deliberate self-harm denoting an inability to express feelings of sadness, anxiety and frustration; they are also seen as a cry for help. Of the total violent incidents in one camp (affecting 1165 women in 1988), rape accounted for 3% of the episodes while beating accounted for 48%.

An example of rape used as a threat by the perpetrators to gain economic power occurred during tribal clashes in the Rift Valley of Kenya. After a Kikuyu farmer left his farm in search of work, his wife was assaulted during the night by Kalendjins who demanded the transference of her title deed. Six men threatened to rape and then kill her. Desperation and the struggle to survive plus a lack of security and protection proved powerful coercive factors. She gave away her land to the attackers.

Rape incidents are also associated with ethnic disputes. For example, Muslim and other women in Bosnia-Herzegovina are reported

Women take to the road in search of better prospects at the height of the Somalian famine in 1992.

to have been sexually abused and raped by enemy forces in an organized and systematic way. When pregnancies result from these attacks, the unwilling mothers reject their babies and suffer long-term trauma. International operational agencies are powerless to help because they have neither research knowledge nor past experience in how to deal with these unwanted children.

In Uganda in the late 1980s, it is known that in some instances where women were raped, they not only suffered the humiliation and trauma, but some also became infected with AIDS. More such incidents may be occurring today in other disaster-stricken countries of Central Africa. It is reported that 25% of the Mozambican women in Ukwimi camp in Zambia were either victims of rape or had witnessed somebody being raped or sexually abused as a result of political or military activity. In Somalia, men have committed rape after looting women's households. In Mogadishu, an area directly affected by inter-clan war violence, I was told of cases where husbands were either arrested and then killed or were killed in front of their wives, who were then raped. One Somali victim of rape reported: "They shot my husband in front of me, (and) they beat me...I was lucky they did not kill us...I was raped, and then I lost all my property. But it is not only me; a woman professor also here with us in a shelter provided by a women's organization in Mogadishu was raped by eight men".

Post-traumatic stress

Women experience very diverse reactions after rape, depending on such factors as the nature of the attack and the threat of danger. The resulting psychological stress, if unresolved, can produce depression ending in suicide. Disclosure of these experiences is difficult, and is masked by cultural constraints about confessing to the husband, father or other male in the family that rape has occurred. Middle- and long-term problems are mainly related to new sexual experiences, which easily become emotionally traumatic with clearly long-lasting psychosomatic effects.

Women who had lost children and husbands in disasters and were then raped in camps were much more prone than other women to post-traumatic stress disorder which often occurs after a disaster strikes. Aggression and antisocial behaviour, generalized anxiety and depression linked to a lost sense of personal worth are among the symptoms shown by women who have been raped. Even estimating the incidence of rape is difficult because of the fear that disclosing such an incident may lead to stigmatization and shame for the victims.

Rape is one of the most violent forms of physical abuse and an all-too-common occurrence in conflict-induced disasters, but it is not yet considered an international crime or – in military situations – defined as a war crime. Men wounded or maimed in war may be respected as heroes who have served their country. On the other hand, women who have been wounded by rape are stigmatized and shamed. The psychosocial component of women's vulnerabilities in disaster-stricken countries needs to be addressed through measures of preparedness, protection and security, and the whole issue of rape in such circumstances needs to be confronted with tact and sympathy. ■

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These boat women feel helpless and vulnerable, the boat that was their home has just sunk.

Women in a refugee camp in Sudan. Exposure to the risks of illness and crime adds to their hardship.

Suicide and attempted suicide

A. J. F. M. Kerkhof

Prevention strategies need to focus on the reasons why so many people fail to cope with the pressures of everyday life. Stability in social relations, and healthy cultural attitudes towards emotional problems are essential.

Difficulties in coping with life and loneliness may lead to severe depression

Suicidal behaviour is usually associated with the mental health status of individuals who cannot cope with their lives. But, when studying suicidal behaviour, we can observe social, economic and cultural influences linked to these individuals' decisions.

Suicide refers to a deliberate act intended to end one's life in order to escape unbearable suffering. Dying is preferred to a prolongation of despair due to adverse conditions of life: the consciousness of pain, loneliness, guilt, loss, disease, depression, violence or poverty. Many people who commit suicide are depressed, a state of mind in which they depreciate the quality of their lives, and most have made the attempt before (60%).

Attempted suicide refers to a deliberate but unsuccessful act intended to end one's life in order to escape unbearable suffering, or to help change the adverse conditions of living. The question whether an attempted suicide implies a deliberate but unsuccessful intention to die, or a deliberate intention not to die but to inflict harm upon oneself, is often difficult to answer. When asked why they took pills, or slashed their wrists, people often declare that they wanted to die *and* to find help as well: they wanted both. The essential quality of attempted suicide is that of ambivalence: expressing a wish to die *as well as* a cry for help. Attempted suicide therefore has a strong social meaning: "please help me, I cannot cope by myself". Many people who attempt suicide will repeat this behaviour in the near future (40%), and some will eventually die by suicide (10%).

There is always a reason

Suicidal behaviour demonstrates that something is fundamentally wrong, either with an individual or with the situation in which the individual exists, or with both the situation *and* the individual. Suicidal behaviour does not show up without any reasons. Through information from relatives it has become clear that most people who committed suicide had long-lasting emotional problems such as depression, anxiety, unhappy relationships, alcohol- and drug-related problems, joblessness, feelings of loneliness and guilt, problems with relatives, and so on. Many had received help in the form of outpatient or inpatient psychiatric treatment or psychotherapy. All this testifies to the fact that the precipitating factors of suicide generally are of a long-lasting nature. In order to understand them we have to take into consideration the individual's character traits, coping abilities, social support and life events.

We also need to understand the social origins of individual emotional problems. In the early

childhood of people who committed suicide we quite often find broken homes, separation and divorce, loss of one or both parents, rape and sexual abuse, incest, domestic violence, alcohol abuse by parents, and other adverse life events. In later periods of life occur such adverse events as sexual abuse, forced marriages, problems with in-laws and dowry, wife battering, war, torture and concentration camps. There is evidence that suicide victims have experienced more of these traumatic events than normal control groups.

Studies of attempted suicide, such as the current WHO/EURO Multicentre Study on Parasuicide, show that this behaviour is more prevalent among young women, people with low education levels, the unemployed, the disabled, and the divorced and separated. The picture that emerges is of powerless groups or those with little chances to improve themselves, facing troubles in finding a place in society, and having many emotional and relationship problems as well. The conclusion has to be that suicidal behaviour is the result of both social conditions and individual maladaptation.

International differences

The impact of social influences on suicide is obvious when we look at the striking differences in suicide rates and attempted suicide rates between nations. Hungary shows the highest suicide rates, followed by Finland, Sri Lanka, Austria, Denmark and Belgium. As for attempted suicide rates, Finland, Denmark, Sweden, the United Kingdom and Hungary rank highest. There has always been a remarkable stability in the ranking order of suicide rates, suggesting that strong cultural forces are operating. One such factor is religion: suicide rates in Islamic countries are considerably lower, while the rates in Protestant northern Europe and in North America are higher than in Roman Catholic southern Europe or in Latin America. Even within countries, such as the Netherlands, USA and Canada, predominantly Roman Catholic regions produce fewer suicides than Protestant regions. The rising trends in suicide rates in some European countries in the 1970s were most likely related to secularization (the decline of religious belief). Immigrants tend to show suicide rates similar to those in their countries of origin, so the cultural factors impinging on suicide rates can only be expected to change over several generations. Countries with high divorce rates show comparatively high suicide rates.

There are clear national differences in the general social, economic and cultural stability that are related to suicide. Examples of this can be found in India, Sri Lanka and China. In India and Sri Lanka, the suicide rates are exceptionally high among young females, which has to do with the dowry system and materialistic demands from the family of the bride, forced

General practitioners need to be alert for possible psychiatric problems.

Firm social support is essential for everybody's mental balance.

marriages, and the subordinate position of females. In China, especially in the rural areas, high suicide rates among females are also being reported. Although not fully documented, it seems that the transition from a traditional agricultural society into a more modern, educated society is frustrated by traditional attitudes towards the subordinate position of women.

A further social factor that needs to be considered is the availability of means to commit suicide. In the USA many suicides involve firearms while in some other countries no suicides whatsoever involve guns. Pesticides, barbiturates, car emissions and so on are favoured methods in different countries, depending upon their availability.

Prevention

A number of measures to prevent suicide are possible. It is most important to prevent people who have attempted suicide for the first time from becoming repeaters. This necessitates good management of suicide attempters in general hospitals and by general practitioners, and good aftercare in outpatient or inpatient mental health care. Unfortunately, the development of such management and aftercare programmes is still neglected, even in the industrialized countries.

The next important preventive measure is to provide potential suicide candidates with easy access to affordable mental health care. Samaritan volunteers and telephone help services can be very useful. The expertise of general practitioners in dealing with psychological conditions is equally important. Basic to this is the attitude of society towards emotional problems and mental health. In cultures where emotional problems are regarded as weaknesses or signs of abnormality, the prevention of suicide is likely to be underdeveloped.

Informal care within local villages and communities is crucial in preventing persons at risk from getting isolated and depressed. Attitudes towards emotional problems and mental illness need to be influenced by educating the general public towards a more permissive and informed opinion. Education targeted at emotional problems in general and to the short-term and long-term emotional effects of physical trauma (from sexual violence and war, for example) should be much better known to the general public.

The success of suicide prevention efforts depends to a great extent upon whether the authorities can promote healthy attitudes towards mental health. The stigma associated with being mentally ill, which causes fear, misunderstanding and discrimination, has to be attacked. More attention should be paid to minor, acute or temporarily disabling psychological conditions and to the treatability of the more seriously affected. Prevention strategies first of all need to focus on the reasons why so many people fail to cope with the pressures of everyday life. Fundamental changes in suicide mortality cannot be expected from improvements in health care facilities alone. Stability in social relations and healthy cultural attitudes towards emotional problems are needed as well. ■

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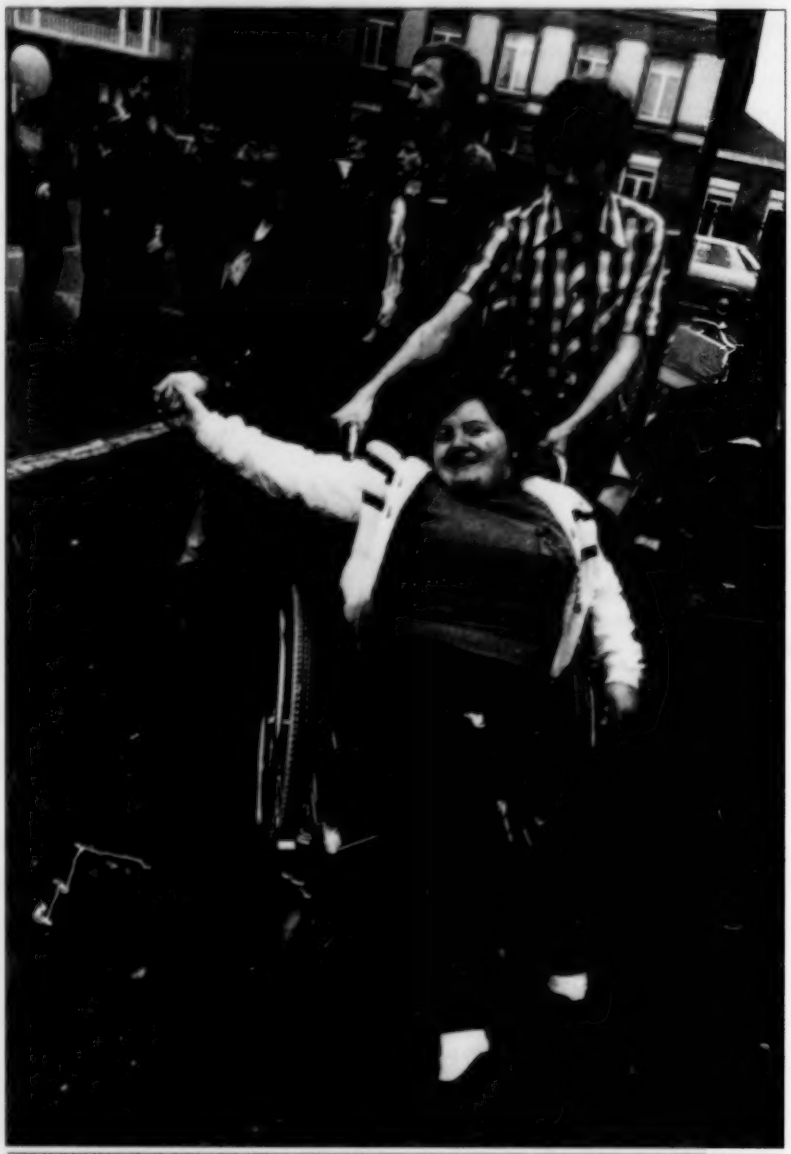

The most vulnerable groups in any society feel the need for support from relatives and friends.

Children in war

Mona Macksoud

One more innocent victim; this little girl was shot down during a massacre in Liberia.

More than 20 wars are being waged at this moment throughout the world. They range from full-scale civil conflicts to multiparty conflicts and incipient guerrilla insurgencies. Children's exposure to (and even their participation in) war varies dramatically, as does the ability of parents, communities and nations to protect children from warfare.

Some children bear arms and/or come under direct fire; some are kidnapped, tortured, brainwashed. As a result, some die or are physically handicapped for life; some children watch in horror as parents, brothers, sisters or friends fight, flee or die; other children see the conflicts only on the television screen. Although basic survival needs take priority over psychological needs in time of war, there is growing concern that such overwhelming experiences will have a damaging impact on the development of these children, their attitudes towards society, their relationships with others, and their outlook on life in general.

Some parents or communities have been able to shelter their children from war. Most families, however, drained of their resources after many years of warfare, feel helpless about protecting their children from events beyond their control. Until we know how to prevent wars, the international community will want to do all it can to empower parents, communities and nations to protect their children from the most serious physical and psychosocial effects of war. In fact, protecting children in areas of armed conflict is not only humanitarian in its own right, but it may also be among the few viable strategies to end the generational transmission of violence that exists in some parts of the world.

When parents, communities and nations cannot be the agents for protection, direct efforts by the international community may become necessary to protect children's rights under conditions of war. These rights and the national and international responsibilities are articulated fully in the United Nations Convention on the Rights of the Child. This international treaty came into force on 2 September 1990, and confers the philosophical and political legitimacy that is required to work on behalf of children. But do we have the knowledge to act wisely in our efforts to protect children from war?

Children are all too often innocent victims caught in the crossfire of armed conflicts. Urgent action is needed to protect a generation of children who have lost their sense of safety, are haunted by terrifying memories and hold a pessimistic view of the future.

Traumatic effects

Let us look briefly at the kinds of traumatic experiences that children face when growing up in war-torn countries, and the impact of such experiences on their psychosocial development. Understanding these will also help to identify those factors in the life of a child that can mitigate the long-term effects of war. Recent research into the effects of political conflict on children has emerged from conditions as varied as Lebanon, Mozambique, South Africa and Central America. Most researchers indicate that the war-related experiences of children living under armed conflict are diverse and multiple, and can occur repeatedly over long periods of time.

In Lebanon, a national war trauma profile compiled in 1988 showed that, on average, a Lebanese child has experienced five to six different types of traumatic events during his or her lifetime. The most common traumatic experiences for children in Lebanon were exposure to shelling or combat (90%), displacement (68%), extreme poverty (54%), and witnessing violent acts such as watching the intimidation, injury or death of someone close to the child (50%). As a result of the Gulf War, similar high numbers of children living in Kuwait and Iraq were exposed to such traumas.

In Mozambique, children were more directly implicated in the atrocities of the war. A survey conducted in 1989 showed that many Mozambican children had been physically abused or tortured, or abducted from their families. Some abducted children had been trained for combat and forced to kill.

Under apartheid and the State of Emergency in South Africa, and under Israeli occupation of the West Bank and the Gaza Strip, children have grown up amidst continuous social, economic and political discrimination. They have witnessed the detention or murder of community leaders, the destruction of their homes and schools, and have actively participated in resistance movements.

Finally, violence increasingly and persistently victimizes poverty-stricken families in Central America. Thousands of children have suffered the loss of family members, forced separation from family and community, pervasive fear and social injustice.

Bitter consequences

Whether originating in bereavement, displacement or shelling, children's initial reactions to traumatic events have a great deal in common. Most children will suffer from nightmares and disturbed sleep, difficulty in concentrating (especially on school work), repetitive and unsatisfying play involving traumatic themes, diminished interest in enjoyable activities, emotional detachment from parents or friends, and an increased state of alertness (such as extreme nervousness and hyperarousal). Unfortunately, most children continue to suffer for a long time after the occurrence of the trauma.

Armed conflicts can have even more far-reaching effects on children's psychosocial development. These may take several forms. During wartime, children experience a sense of "betrayal" when they watch such authority figures as parents, teachers or local heroes – those role models they have learnt to trust and respect – repeatedly breaching the expected moral standards of behaviour. This deep sense of betrayal may affect the moral development of these children. Basic assumptions about what is right and wrong are thoroughly shaken.

Having "lost" their childhood, war children may grow up wanting to compensate actively for that loss. The material and psychological deprivation that these children feel is expected to have a profound effect on their personality formation. Some develop a resentment and anger leading to a chronic suspicion of others, while others develop an altruistic self-sacrificing attitude. Both transformations of the self-image may influence the child's later occupational choice, and his or her relationships with others.

The random and unpredictable nature of war alters children's sense of safety and trust. Parents are often unable to protect their children from harm. As a consequence, the insecurity these children feel is intensive; they become anxious and over-dependent. They often display a diminished capacity to trust in themselves or others, and harbour intense feelings of vulnerability.

Some children, mainly older ones, become pupils of war when they are recruited as militia fighters. This is often associated with heavy indoctrination programmes that glorify violence. For many of these children, violence becomes a way of life, a "drug" to cure feelings of grief and hopelessness.

Finally, a chronic war situation leaves children uncertain about their future. Many convey a pessimistic view of what life may bring them. Some go on harbouring catastrophic expectations, while others, interestingly enough, live with the conviction that they are "protected for life by some supernatural forces". The latter may become prone to high-risk behaviour

Children who have only known times of war show an unhealthy interest in the tools of death.

(accepting dares, carelessness and so forth).

Learning to cope

The extent to which children are negatively affected by war or are resilient depends in part on the potency of mediating factors, such as certain developmental processes within the child, the availability of the parents, and the solidarity of the community. Young children who have secure attachment relationships with their parents or carers; school-age children who are taught to cope competently with stressful events; and adolescents who develop a strong sense of personal identity ..ed to their role in the armed conflict – all these may come through the experience of war less damaged than other children. These developmental achievements seem to be associated with certain parenting and child-rearing practices and values that could become the target for intervention work with families and communities.

There is some evidence suggesting that if parents (mothers mostly) are not pushed beyond their stress tolerance capacity and maintain a positive sense of self, and if they can sustain a strong attachment to their children and offer them a semblance of normality in day-to-day living, and if they are taught to identify stress reactions and problem behaviours and offer children some guidance, then their children will manage to cope. Older children are less dependent on the capacity of parents to buffer the impact of war. Rather, they rely on their communities and peers. Communities can buffer the impact of destabilization and violence by offering constructive educational and social activities for adolescents – activities that give youth the opportunity to address the violence around them in a constructive way, such as youth peace camps, class discussions on war and violence, relief work with local organizations and so on.

Sinister playthings that may soon turn the players into victims.

Children are all too often innocent victims caught in the crossfire of armed conflicts. Their lives are affected by the violence and the atrocities they experience on a daily basis. We have seen how war traumas significantly and persistently burden children's psychosocial development. Urgent action is needed to protect a generation of vulnerable children who have lost their sense of safety, who have acquired a high tolerance for violence, who are haunted by terrifying memories, mistrustful and cautious of others, and who hold a pessimistic view of the future. ■

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Warfare in Afghanistan has left this young boy maimed.

A family in Lebanon. The destruction of their homes and schools will leave a long-lasting psychological mark on the children.

Combat stress reactions

Lars Weisaeth

This monument in a park in Montreal, Canada, depicts the stress that soldiers experience in combat.

In conventional warfare, about 20% of all soldiers who need medical attention are not physically wounded, but have combat stress reactions (CSRs) as their primary problem. In addition, many of the physically wounded also suffer from psychological problems. As the term implies, a CSR – also called battle shock – is caused mainly by the massive physiological and psychological stresses of combat. Soldiers with CSR suffer a significant loss of combat efficiency or are totally incapacitated. When fighting is extremely intense, up to 80% of medical losses have been of a psychiatric nature.

Fear of death as well as any uncontrollable and unpredictable dangers are likely to lead to this condition. CSR is more likely when there are very heavy casualties, surprise attacks, exposure to unknown weapons or to air or gas attacks, continuous heavy artillery, heavily mined areas, lack of sleep, poor food and hygiene, inadequate communications, isolation and lack of trust in the leadership.

A soldier who feels in control during battle does not develop CSR. The most important protective factors are strong group cohesion, trust in the commanders, high motivation, being well armed and protected, a high quality of combat training, and a reliable medical corps. Most cases will be consistent with the diagnosis of acute stress reactions listed in the latest International Classification of Diseases.

Treatment

A breakthrough occurred during the First World War in 1917, when C.S. Myers, a pioneer British Army psychiatrist, developed "forward psychiatry" and treated "shellshock" as a disorder of a psychological, and not organic, nature. The treatment emphasized reducing the stress exposure without evacuation from the front (to avoid inflicting personal failure and to protect the soldier's group identity), as well as sleep, rest, food and an optimistic approach that this was a passing condition, soon to be over. It proved possible for 90% of CSR sufferers to return to duty within 72 hours.

These lessons were forgotten and had to be rediscovered during both the Second World War and the Korean war. Today the attitude to CSR is that it should be seen as a temporary and reversible reaction which causes a reduction of functional capacity in a previously normal person who is overwhelmed by severe stress. The realization that the relationship to a group was of fundamental importance inspired social psychiatry, and it was no coincidence that such forms of treatment as group therapy, group stress debriefing and the therapeutic community were all created or received powerful impetus during the Second World War.

Many post-war psychiatric problems start as CSRs, and post-traumatic stress disorder (PTSD) is by far the most frequent psychiatric war-related illness. For instance, fifteen years after the Vietnam War, 15.2% of all United States male veterans were still suffering from a PTSD. ■

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Coping with bereavement

A. Scott Henderson

Health professionals need to be aware that physical symptoms in the recently bereaved may be due to emotional reactions and they should invoke appropriate support as well as counselling according to local cultural practices.

The consequences of bereavement can by physical as well as emotional.

The loss of someone close is a painful experience. Most people are likely to be bereaved several times in their lives, and to face the task of coming to terms with the loss. Bereavement brings more than distress and sadness: the loss can induce other painful feelings, such as guilt over things said or done in the past. There may also be anger or resentment directed towards the deceased person or to others, including family members and health professionals. Not uncommonly, people who have been bereaved need to unburden their painful thoughts by talking about them with their family and friends. This is part of the grief process, whereby the individual gradually adjusts to life without the deceased person. Occasionally, there may be a need for professional counselling. In some instances, the bereavement may precipitate a depressive disorder.

In addition to the emotional consequences of bereavement, there are often physical symptoms. This is thought to be likely if the process of grieving is blocked for some reason, so that there is incomplete expression of emotional distress. Physicians of the pre-scientific era knew about this when they wrote: "The sorrow that has no vent in tears may make other organs weep."

There is great variation across cultures in people's response to bereavement. Among some Caucasians, concealment or suppression of grief is admired. People may say of a recently bereaved widow, "She is being very brave", meaning that she has given no public display of her distress, and that this is to her credit. This is in marked contrast to many other cultures, where emotional outpouring is expected and encouraged. This seems to help the process of mourning to advance towards a healthy resolution.

Some health problems that may be associated with bereavement are insomnia, headaches, impaired appetite, weight loss, lack of energy, palpitations and indigestion. These symptoms are probably induced by the emotional disturbances of bereavement. What is striking is that, in many countries, there is an increase in smoking and in the use of alcohol and tranquillizers. Another finding has been that young widows and widowers are more likely to develop both psychological and physical symptoms than the elderly bereaved. In general, women cope better with bereavement than men, and the elderly cope better than younger adults.

Not just folk wisdom

Among the elderly, it has been observed that where one partner in a marriage dies, the surviving partner is more than likely to die soon afterwards. This is not just folk wisdom; it has been shown to be true by statistical analyses of large populations. Indeed, death of a spouse shortens the survivor's life more than if the latter had been diagnosed with cancer. The causes of subsequent death among survivors are not clearly related to psychological causes, such as suicide, or to whatever led to the original death, such as an infection.

It is not known what causes the increase in mortality after bereavement. Possibilities are that people tend to marry others with similar characteristics, perhaps including poor health; or that both spouses have had a similar lifestyle with the same exposure to risk factors; or that the widowed one receives less care, with poorer nutrition and hygiene, leading to decreased resistance to disease; or finally a "desolation effect", in which grief leads to changes in body functions, such as in the immune and endocrine systems. The evidence favours the last two mechanisms, showing that human health depends on the interplay of biological, emotional and social factors, and that only one of these is rarely a sufficient explanation.

The great majority of people go through bereavement without developing a mental or physical disorder, although they will experience emotional distress and a profound sense of loss. The process of grief can take many months to run its normal course, at the end of which the deceased person is still missed, but thinking of her or him does not evoke unduly painful feelings. Such a course of events is likely where the surviving person has previously had good mental adjustment, with few health problems, and where she or he is supported by family and friends. During the period of grief, it is important that the bereaved should think about the deceased person, and above all talk to others about the past, the death itself, and the feelings being experienced. Going over these issues, possibly time and again and with free expression of emotion, is likely to help the person work towards acceptance of the loss. Human beings are remarkably adaptive and resilient, and it is important to remember that bereavement has been part of human experience throughout history. It is therefore not surprising that the majority of people adapt to the loss and, in time, function again normally.

Loneliness – an aggravating factor of bereavement.

Distressing events

It is indisputable that bereavement is one of the most severe stresses that life brings, particularly when it involves the loss of a parent, spouse or child. Furthermore, the circumstances of the death itself can be deeply distressing, as in an unexpected accident, sudden illness, suicide, natural disaster such as an earthquake or flood, or war. Where there has been torture before the death itself, the grief will clearly be greater, with the added emotions of hatred, anger and revenge.

Strong ties with the social milieu helps survivors to adjust to life without their loved ones.

In normal civilian life, it is known that the recently bereaved are more likely than others to go to a primary health care centre or their general practitioner. For this reason, it is important that health professionals be aware that physical symptoms in the recently bereaved may be due to emotional reactions, and that they invoke appropriate support as well as counselling according to local cultural practices. Religious leaders and support groups can play a major role in helping the bereaved.

Where the grief itself or some unexplained physical symptoms persist for many months afterwards, the possibility of a depressive disorder has to be considered. Here, the practitioner may be helped in the diagnosis by using the "flip-cards" for depression, anxiety, or unexplained physical symptoms which have recently been developed by WHO's Division of Mental Health in Geneva. These single-page outlines not only make it easy to diagnose a mental disorder where this is suspected, but they also provide a simple treatment plan. For the bereaved, counselling will be the most important part of such care. The fact is that a bereaved person is likely to suffer both physically and mentally. The health worker should therefore not be blind to the possibility that the symptoms experienced during bereavement may be due to serious physical illness. ■

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But what will become of me when I lose my life-long companion?

The bereaved may fall into the dangerous trap of alcohol abuse

"ICD-10 PHC flip cards": a tool for easy diagnosis by primary health care workers

"A classification is a way of seeing the world", Dr Norman Sartorius, former Director of the Division of Mental Health at WHO, said. And indeed, to have a sound classification of disorders is of great help to researchers and clinicians. WHO has recently published two volumes of *The ICD-10 classification of mental and behaviourial disorders*, one in 1992 giving clinical descriptions and diagnostic guidelines, and one in 1993 giving diagnostic criteria for research.

"ICD-10" stands for "Tenth Revision of the International Classification of Diseases", which came into effect on 1 January 1993. *World Health* reported in its November–December 1993 issue on this important activity that has been WHO's responsibility since 1948.

A primary health care version of the *ICD-10 classification of mental and behaviourial disorders* has been developed by the WHO Division of Mental Health to meet the needs of primary health care practitioners. This simplified and concise version focuses on conditions which are frequently seen in primary care settings. The classification is presented in the form of flip cards containing diagnostic and case management guidelines.

Field trials are planned to evaluate the reliability and validity of the ICD-10 PHC as a classification system, and to test out the acceptability and applicability of the flip cards on primary health care services. Those interested in taking part in this work, or obtaining further information about the PHC flip cards, are invited to contact Dr T. B. Üstün, Division of Mental Health, World Health Organization, 1211 Geneva 27, Switzerland.

Community action: Helping oneself to health

Lalit M. Nath

Each May, at the time of the World Health Assembly, delegates and other health experts are invited to participate in Technical Discussions on a theme of importance for international public health. This year, "Community action for health" puts the accent on the need for a dynamic partnership between health professionals and individuals to ensure a focused improvement in each community's health status.

Today, more than 15 years after the International Conference on Primary Health Care in Alma-Ata, the concept of community action for health is receiving greater interest and support than ever before. Governments, communities and nongovernmental organizations are exploring the possibility of creating new and innovative types of partnerships that can contribute considerably to making the goal of health for all a reality.

In the past, despite many examples and success stories from all parts of the world, community action for health had rarely been vigorously taken up at a central level or systematically translated into broad national action or policy. Therefore both the World Health Assembly resolution on "Health for all by the year 2000" in 1977 and the Alma-Ata Declaration in 1978 focused on political commitment to involve the public in the design, choice and delivery of health care and specific interventions. This international commitment was reinforced in 1992 by the Declaration of Rio, where the close and inevitable relationship between the state of the environment and the health of the people was reiterated and the role of the community was emphasized.

Yet many policy-makers and those responsible for providing health care appear to have remained sceptical about the benefits of the community engaging itself in health care activities, and certainly about the community's role in defining health problems, setting priorities and contributing to their solution. However, people are better prepared today not only to express their dissatisfaction, but also to provide information and guidance on the alternatives which they believe should be pursued.

Changing health patterns

This trend towards community involvement has not been lost on health planners, whose appreciation of the role of the community has also been sharpened by the realization that the character and distribution of health and disease patterns have changed dramatically. The demographic and social changes over the past few decades now call for different approaches to be taken to both the prevention and the treatment of disease and therefore to the allocation of resources. Changes in the life-span and disease pattern are not limited to the Western world. In India, for example, the expectation of life at birth has more than doubled since the nation's independence in 1947, and in numerical terms India probably has more elderly people than most other countries.

In countries where poverty-related and communicable diseases have still not been effectively controlled, new lifestyle-related

Communities today are better able to express their needs.

health problems are now becoming prominent. These countries have to deal with diarrhoea and respiratory infections of childhood, but are also increasingly faced with cardio-vascular disease, cancers, injuries, and the growing health needs of the elderly – in other words, with health problems that are typical of the industrialized world.

Many of these emerging health conditions are not amenable to the curative care that is available. At the same time there is a growing understanding that most of them could be prevented through behavioural change. The pandemic of HIV infection and AIDS has also brought home both to the health decision-makers and to the public that prevention lies in changed behaviour. And for behaviour change to be possible, an essential element appears to be community-based support and action. Such interventions obviously call for a new type of partnership between the community and the formal health sector.

Rising medical costs

In recent years both the governments and the people in developing and developed countries alike have seen the costs of medical care spiral. As the technology of modern care has become more sophisticated and complex, it has generally also become much more expensive. As a result the task of providing quality tertiary care to all people – many of them lacking insurance and social security coverage – has become increasingly difficult. Even in the developed countries many social groups, especially the urban poor, now have less access to quality health care than they did 20 years ago. Finding alternative methods of meeting many of these health needs,

Making bricks to build the village health centre.

and especially preventing them from becoming chronic and major, has thus become a priority everywhere.

Dissatisfaction with the health and social welfare systems has given rise to special health interest groups – associations formed to mobilize funds and technical expertise around specific issues such as muscular dystrophy, cancer, tuberculosis, HIV infection and other diseases which sections of the public have felt were not receiving adequate or appropriate attention. With time, these groups have also begun to provide technical direction to researchers and policy-makers, and in so doing have set an agenda for new partnerships between the community and the formal health sector.

One example is the coronary artery disease control programme in Finland. The people of North Karelia were so alarmed by the high heart disease rate in their region that they petitioned the government to take preventive action. This community initiative resulted in an extensive risk factor reduction programme. Similar examples of community action for health can be found in other parts of the world. All of them demonstrate that, where the community is truly involved in its own health action, the likelihood of a sustainable change is high; and when the community is not involved and active in health action, the probability of achieving lasting behaviour change is limited.

The imperative call for community action for health at this time arises from two different sources. On the one hand, there has been an increasing perception by the community that they have a need and responsibility to assume a greater share of the initiative for their own health care. And on the other, there is growing awareness among health care decision-makers that, without community action, the behavioural changes needed to prevent the major causes of mortality and morbidity are unlikely to materialize and vital opportunities for achieving equity in health are likely to be missed. ■

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WHO in action

Eliminating leprosy

In 1991, WHO's Member States pledged their commitment to eliminating leprosy as a public health problem by the year 2000. World Health interviewed Dr S. K. Noordeen, Chief of the Leprosy Unit at WHO headquarters in Geneva, about the progress being made.

A disease that blinds, a disease that mutilates.

What makes WHO so confident that this is now possible?

There is no lingering doubt today that we can bring about a drastic reduction in the prevalence of this disease by treating patients with multidrug therapy (MDT). So, provided there is effective disease control, it can be reduced within the space of six or seven years to a level where leprosy is no longer a public health problem. We define this as reducing the proportion of leprosy patients in a given community to less than one case per 10 000 population.

What do you mean by multidrug therapy?

Until 1980, leprosy control programmes employed only a single drug, dapsone, which was capable of killing the bacterium *Mycobacterium leprae* in the infected person. This showed great promise, but then dapsone-resistant strains developed. Fortunately, two other powerful antileprosy drugs became available – rifampicin and clofazimine – so that when they are used together there is very little chance of the bacterium developing resistance to all three. Over the years, MDT – as recommended by WHO – has proved to be highly effective in curing leprosy and is also quite acceptable to the patients. Provided there is very high MDT coverage, the pool of infectious sources should be wiped out in the course of time, and transmission of infection with *M.leprae* will cease. Of course, any physical damage that has been done cannot be easily restored. Even after leprosy is eliminated, many thousands of patients will still need physical rehabilitation.

How many victims of leprosy are there in the world today, and how many new cases occur every year?

There are an estimated total of 2.4 million existing cases, and 87 countries have significant numbers of cases. Of these, 95% live in 25 countries, while just five countries – Brazil, India, Indonesia, Myanmar and Nigeria – account for 81% of the cases. About 650 000 new cases are still being detected each year, but these are expected to decline steadily.

What progress has been made so far? What remains to be done? And how much will the task cost?

After eight years of treating cases with MDT, some 5.6 million patients had been cured by late 1993, and over one million patients were still being treated. The total of registered cases has fallen from 5.4 million in 1985 to 1.76 million in 1993. Between 1993 and the year 2000, we will have to treat some 5.0 million patients with MDT, at a cost estimated at between US$ 400 million and $ 600 million, of which about 25% will be required for the drugs.

The multidrug therapy is highly effective, and quite acceptable to the patients.

How does a person become infected?
Leprosy is not easy to "catch." Merely touching an infected person's hand does not transmit the disease. But people living in close physical contact with an infected person are at high risk of infection. The average incubation period is three to five years, but can be as long as two decades.

Will new cases of leprosy continue to occur beyond the year 2000? If so, how can they be explained?
Yes, a few new cases will continue to occur because of the long incubation time. But the continued application of MDT will steadily reduce the number of new cases. Different WHO regions will reach elimination levels at different times: in the Eastern Mediterranean region it might be as early as 1997, in the African region by 1998, and in the South-East Asia region by the year 2000. We can expect the total eradication of leprosy some time early in the next century.

What are the essential requirements for eliminating this disease?
The most essential thing is to maintain high coverage with MDT – in the region of 95% – as well as high levels of patients complying with and completing the treatment. There has to be very effective case-detection, and all the endemic countries must constantly monitor the progress they are making. Governments, donor agencies – and of course WHO – need to remain politically committed to the goal of elimination and not relax their quest for the necessary resources. WHO's particular role is to coordinate the efforts and resources of various agencies, including the World Bank, the Sasakawa Foundation and such major nongovernmental organizations as the International Federation of Anti-Leprosy Associations (ILEP), the International Leprosy Association (ILA) and the International Leprosy Union (ILU).

Is there not a risk of people becoming over-optimistic about eliminating this disease, and putting less effort into leprosy control and leprosy research?
Certainly the international health community should not become complacent. The challenge is still formidable, and initial success should in no way dilute the support for leprosy control or research. We have no doubt that this goal can be reached, but it will call for concerted and coordinated efforts by all concerned. ■

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In the next issue

An important international conference on Population and Development is to take place in Cairo in September. The May–June issue looks at the interactions of demographic factors and the health status of different population groups, and at efforts to ensure the quality of life of all people. ■

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